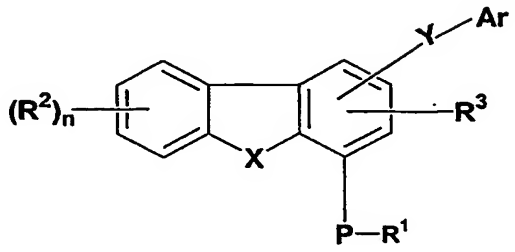
We Claim

1. A compound of general formula (1)



(1)

wherein:

R^1, R^2 and R^3 may be same or different and are independently selected from the groups consisting of hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic ring, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , –C(O)-R^1, -C(O)O-R^1, -C(O)NR^1R^1 , -$S(O)_m$-R^1, -$S(O)_m$-NR^1R^1 , nitro, -OH, cyano, amino, formyl, acetyl, halogen,-OR^1, -SR^1, protecting groups or when two R^2 substitutents ortho to each other, may be joined to a form a saturated or unsaturated cyclic ring, which may optionally include up to two heteroatoms selected from O, NR^1 or S;

wherein P represents oxygen or sulfur;

wherein n represents 0 – 4;

Ar is substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heterocyclic ring or substituted or unsubstituted heteroaryl ring;

X is oxygen, $S(O)_m$ or NR^5;

R^5 represents hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or

unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , $-C(O)-R^1$, $-C(O)O-R^1$, $-C(O)NR^1R^1$, $-S(O)_m-R^1$, $-S(O)_m-NR^1R^1$, nitro, -OH, cyano, amino, formyl, acetyl, halogen,$-OR^2$, $-SR^2$ and protecting groups

wherein m is 0, 1 or 2;

Y is $-C(O)NR^4$, $-NR^4SO_2$, $-SO_2NR^4$ or $-NR^4C(O)$;

R^4 is hydrogen, substituted or unsubstituted alkyl, hydroxyl, $-OR^1$, $-COOR^1$, substituted or unsubstituted aryl, substituted or unsubstituted heterocyclic ring ;

and their analogs, their tautomers, their regioisomers, their stereoisomers, their enantiomers, their diastereomers, their polymorphs, their pharmaceutically acceptable salts, their N-oxides, their pharmaceutically acceptable solvates and their pharmaceutical compositions containing them or pharmaceutically acceptable salts thereof.

2. A compound according to claim 1 wherein the substituents in the 'substituted alkyl', 'substituted alkoxy' 'substituted alkenyl' 'substituted alkynyl' 'substituted cycloalkyl' 'substituted cycloalkylalkyl' 'substituted cyclocalkenyl' 'substituted arylalkyl' 'substituted aryl' 'substituted heterocyclic ring', 'substituted heteroaryl ring,' 'substituted heteroarylalkyl', 'substituted heterocyclylalkyl ring', 'substituted amino', 'substituted alkoxycarbonyl', 'substituted cyclic ring' 'substituted alkylcarbonyl', 'substituted alkylcarbonyloxy' and may be the same or different which one or more selected from the groups such as hydrogen, hydroxy, halogen, carboxyl, cyano, nitro, oxo (=O), thio(=S), substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted amino, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, 'substituted heterocyclylalkyl ring' substituted or unsubstituted heteroarylalkyl, substituted or unsubstituted heterocyclic ring, substituted or unsubstiuted guanidine, $-COOR^x$, $-C(O)R^x$, $-C(S)R^x$, $-C(O)NR^xR^y$, $-C(O)ONR^xR^y$, $-NR^xCONR^yR^z$, $-N(R^x)SOR^y$, $-N(R^x)SO_2R^y$, $-(=N-N(R^x)R^y)$, $-NR^xC(O)OR^y$, $-NR^xR^y$, $-NR^xC(O)R^y-$, $-NR^xC(S)R^y$ $-NR^xC(S)NR^yR^z$, $-SONR^xR^y-$, $-SO_2NR^xR^y-$, $-OR^x$, $-OR^xC(O)NR^yR^z$, $-OR^xC(O)OR^y-$, $-OC(O)R^x$, $-OC(O)NR^xR^y$, $-R^xNR^yC(O)R^z$, $-R^xOR^y$, $-R^xC(O)OR^y$, $-R^xC(O)NR^yR^z$, $-R^xC(O)R^x$, $-R^xOC(O)R^y$, $-SR^x$, $-SOR^x$, $-SO_2R^x$, $-ONO_2$, wherein R^x, R^y

and R^z in each of the above groups can be hydrogen atom, substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkenyl, substituted or unsubstituted alkynyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted amino, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, 'substituted heterocyclylalkyl ring' substituted or unsubstituted heteroarylalkyl, substituted or unsubstituted heterocyclic ring,

3. The compound according to claim 1 wherein R^1 is substituted alkyl.

4. The compound according to claim 3 wherein R^1 is CHF_2.

5. The compound according to claim 1 wherein R^1 is unsubstituted alkyl.

6. The compound according to claim 5 wherein R^1 is methyl.

7. The compound according to claims 1-5 or 6 wherein P is O or S.

8. The compound according to claim 7 where P is O.

9. The compound according to claims 1-7 or 8 wherein R^2 is selected from the group consisting of substituted alkyl, halogen, cyano, nitro, amino, substituted heterocyclic and $SO_2NR^1R^1$ and n=1.

10. The compound according to claim 9 wherein R^2 is chloro.

11. The compound according to claim 9 wherein R^2 is substituted alkyl.

12. The compound according to claim 11 wherein R^2 is CF_3.

13. The compound according to claim 9 wherein R^2 is $-NH_2$.

14. The compound according to claim 9 wherein R^2 is $-SO_2NR^1R^2$.

15. The compound according to claim 14 wherein R^2 is $SO_2N(CH_3)_2$.

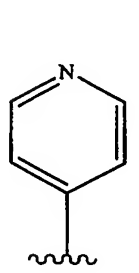
16. The compound according to claims 1-14 or 15 wherein Y is -C(O)NH-.

17. The compound according to claims 1-15 or 16 wherein Ar is selected from the group consisting of substituted or unsubstituted 4-pyridyl; substituted or unsubstituted 4-pyridyl-N-oxide; substituted or unsubstituted 3 pyridyl, substituted or unsubstituted 3 pyridyl-N-oxide; substituted or unsubstituted 2 pyridyl; and substituted or unsubstituted 2 pyridyl N-oxide.

18. The compound according to claim 17 wherein said Ar is substituted with a halogen.

19. The compound according to claim 18 wherein said halogen is chloro.

20. The compound according to claim 17 wherein Ar is selected from the group consisting of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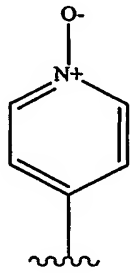
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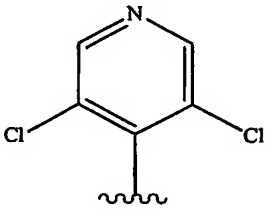
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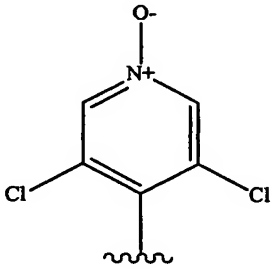
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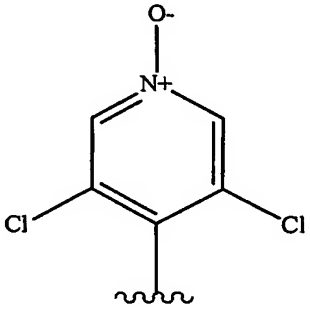
21. The compound according to claim 20 wherein Ar is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22. A compound according to claim 1, N-(3,5-dichloropyrid-4-yl)-4-methoxy dibenzo[b,d]furan-1-carboxamide.

23. A compound according to claim 1, N-(3,5-dichloropyrid-4-yl)-4-methoxy dibenzo[b,d]furan-1-carboxamide-N1-oxide.

24. A compound according to claim 1, N-(pyrid-4-yl)-4-methoxy dibenzo[b,d]furan-1-carboxamide.

25. A compound according to claim 1, N-(pyrid-4-yl)-4-methoxy dibenzo[b,d]furan-1-carboxamide-N1-oxide.

26. A compound according to claim 1, N-(3, 5-dichloropyrid-4-yl)-4-methoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide.

27. A compound according to claim 1, N-(3, 5-dichloropyrid-4-yl)-4-methoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide-N1-oxide.

28. A compound according to claim 1, N-(pyrid-4-yl)-4-methoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide.

29. A compound according to claim 1, N-(3, 5-dichloropyrid-4-yl)-4-difluoromethoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide.

30. A compound according to claim 1, N-(3, 5-dichloropyrid-4-yl)-4-difluoromethoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide-N1-oxide.

31. A compound according to claim 1, N-(pyrid-4-yl)-4-difluoromethoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide.

32. A compound according to claim 1, N-(3, 5-dichloropyrid-4-yl)-4-difluoromethoxy dibenzo[b,d]furan-1-carboxamide.

33. A compound according to claim 1, N-(pyrid-4-yl)-4-difluoromethoxy dibenzo[b,d]furan-1-carboxamide.

34. A compound according to claim 1, N-(3,5-dichloropyrid-4-yl)-4-methoxy-8-nitro dibenzo[b,d]furan-1-carboxamide.

35. A compound according to claim 1, N-(3,5-dichloropyrid-4-yl)-4-methoxy-8-chloro-dibenzo[b,d]furan-1-carboxamide.

36. A compound according to claim 1, N-(3,5-dichloropyrid-4-yl)-4-methoxy-8-bromo-dibenzo[b,d]furan-1-carboxamide.

37. A compound according to claim 1, N-(3,5-dichloropyrid-4-yl)-4-methoxy-8-iodo-dibenzo[b,d]furan-1-carboxamide.

38. A compound according to claim 1, N-(3,5-dichloropyrid-4-yl)-4-methoxy-8-amino-dibenzo[b,d]furan-1-carboxamide.

39. A compound according to claim 1, N-(3,5-dichloropyrid-4-yl)-4-difluoromethoxy-dibenzo[b,d]furan-1-carboxamide-N-oxide.

40. A compound according to claim 1, N4-(3, 5-dichloro-4-pyridyl) -9-benzyl -6-chloro-1-methoxy-9H-4-carbazole carboxamide.

41. A compound according to claim 1, N4-(3, 5-dichloro-4-pyridyl) -6-chloro-9-cyclohexylmethyl -1-methoxy-9H-4-carbazole carboxamide.

42. A compound according to claim 1, N4-(3, 5-dichloro-4-pyridyl) -6-chloro-9-(4-fluorobenzyl)-1-methoxy-9H-4-carbazole carboxamide.

43. A compound according to claim 1, N4-(3, 5-dichloro-4-pyridyl) -6-chloro-9-(4-methoxybenzyl)-1-methoxy-9H-4-carbazolecarboxamide.

44. A compound according to claim 1, N-(3,5-dichloropyrid-4-yl)-4-methoxy-8-cyano-dibenzo[b,d]furan-1-carboxamide.

45. A compound according to claim 1, N-(3,5-dichloropyrid-4-yl)-4-difluoromethoxy-8-nitro-dibenzo[b,d]furan-1-carboxamide

46. A compound according to claim 1, N-(3,5-dichloropyrid-4-yl)-4-difluoromethoxy-8-amino-dibenzo[b,d]furan-1-carboxamide

47. A compound according to claim 1 selected from the group consisting of:

N-(3, 5-dichloropyrid-4-yl)-4-methoxy dibenzo[b,d]furan-1-carboxamide;
N-(3, 5-dichloropyrid-4-yl)-4-methoxy dibenzo[b,d]furan-1-carboxamide-N1-oxide;
N-(pyrid-4-yl)-4-methoxy dibenzo[b,d]furan-1-carboxamide;
N-(pyrid-4-yl)-4-methoxy dibenzo[b,d]furan-1-carboxamide-N1-oxide;
N-(2-chloropyrid-3-yl)-4-methoxy dibenzo[b,d]furan-1-carboxamide;
N-(4-fluorophenyl)-4-methoxy dibenzo[b,d]furan-1-carboxamide;
N-(pyrid-3-yl)-4-methoxy dibenzo[b,d]furan-1-carboxamide;
N-(pyrid-3-yl)-4-methoxy dibenzo[b,d]furan-1-carboxamide-N1-oxide;
N-(3, 5-dichloropyrid-4-yl)-4-methoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide;
N-(3, 5-dichloropyrid-4-yl)-4-methoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide-N1-oxide;
N-(pyrid-4-yl)-4-methoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide;
N-(3, 5-dichloropyrid-4-yl)-4-difluoromethoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide;
N-(3, 5-dichloropyrid-4-yl)-4-difluoromethoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide-N1-oxide;
N-(pyrid-4-yl)-4-difluoromethoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide;

N-(pyrid-4-yl)-4-difluoromethoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide-N1-oxide;
N-(pyrid-3-yl)-4-difluoromethoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide;
N-(pyrid-3-yl)-4-difluoromethoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide-N1-oxide;
N-(pyrid-2-yl)-4-difluoromethoxy-8-trifluoromethyl dibenzo[b,d]furan-1-carboxamide;
N-(3, 5-dichloropyrid-4-yl)-4-difluoromethoxy dibenzo[b,d]furan-1-carboxamide; and
N-(pyrid-4-yl)-4-difluoromethoxy dibenzo[b,d]furan-1-carboxamide.

48. A compound according to claim 1 selected from the group consisting of:

N-(pyrid-4-yl)-4-difluoromethoxy dibenzo[b,d]furan-1-carboxamide-N1-oxide;
N-(pyrid-3-yl)-4-difluoromethoxy dibenzo[b,d]furan-1-carboxamide;
N-(pyrid-3-yl)-4-difluoromethoxy dibenzo[b,d]furan-1-carboxamide-N1-oxide;
N-(5-chloropyrid-2-yl)-4-difluoromethoxy dibenzo[b,d]furan-1-carboxamide;
N-(3, 5-dichloropyrid-4-yl)-4-cyclopropylmethoxy dibenzo[b,d]furan-1-carboxamide;
N-(3, 5-dichloropyrid-4-yl)-4-cyclopropylmethoxy dibenzo[b,d]furan-1-carboxamide-N1-oxide;
N-(pyrid-4-yl)-4-cyclopropylmethoxy dibenzo[b,d]furan-1-carboxamide;
N-(pyrid-4-yl)-4-cyclopropylmethoxy dibenzo[b,d]furan-1-carboxamide-N1-oxide;
N-(pyrid-3-yl)-4-cyclopropylmethoxy dibenzo[b,d]furan-1-carboxamide;
N-(pyrid-3-yl)-4-cyclopropylmethoxy dibenzo[b,d]furan-1-carboxamide-N1-oxide;
N-(3, 5-dichloropyrid-4-yl)-4-isopropyloxy dibenzo[b,d]furan-1-carboxamide;
N-(3, 5-dichloropyrid-4-yl)-4-isopropyloxy dibenzo[b,d]furan-1-carboxamide-N1-oxide;
N-(pyrid-4-yl)-4-isopropyloxy dibenzo[b,d]furan-1-carboxamide;
N-(pyrid-4-yl)-4-isopropyloxy dibenzo[b,d]furan-1-carboxamide-N1-oxide;
N-(pyrid-3-yl)-4-isopropyloxy dibenzo[b,d]furan-1-carboxamide;
N-(pyrid-3-yl)-4-isopropyloxy dibenzo[b,d]furan-1-carboxamide-N1-oxide;
N-(3, 5-dichloropyrid-4-yl)-4-benzyloxy dibenzo[b,d]furan-1-carboxamide;
N-(3,5-dichloropyrid-4-yl)-4-methoxy-8-nitro dibenzo[b,d]furan-1-carboxamide
N-(pyrid-4-yl)-4-methoxy-8-nitro dibenzo[b,d]furan-1-carboxamide; and

N-(pyrid-3-yl)-4-methoxy-8-nitro dibenzo[b,d]furan-1-carboxamide.

49. A compound according to claim 1 selected from the group consisting of:

N-(3,5-dichloropyrid-4-yl)-4-methoxy-8-chloro-dibenzo[b,d]furan-1-carboxamide;

N-(3,5-dichloropyrid-4-yl)-4-methoxy-8-bromo-dibenzo[b,d]furan-1-carboxamide;

N-(pyrid-4-yl)-4-methoxy-8-bromo-dibenzo[b,d]furan-1-carboxamide;

N-(pyrid-3-yl)-4-methoxy-8-bromo-dibenzo[b,d]furan-1-carboxamide;

N-(3,5-dichloropyrid-4-yl)-4-methoxy-8-iodo-dibenzo[b,d]furan-1-carboxamide;

N-(pyrid-4-yl)-4-methoxy-8-iodo-dibenzo[b,d]furan-1-carboxamide;

N-(pyrid-3-yl)-4-methoxy-8-iodo-dibenzo[b,d]furan-1-carboxamide;

N-(4-methylpyrimid-2-yl)-4-methoxy dibenzo[b,d]furan-1-carboxamide;

N-(2,5-dichlorophenyl)-4-methoxy dibenzo[b,d]furan-1-carboxamide;

N-(3, 5-dichloropyrid-4-yl)-4-ethoxycarbomethoxy dibenzo[b,d]furan-1-carboxamide;

N-(3, 5-dichloropyrid-4-yl)-4-hydroxycarbomethoxydibenzo[b,d]furan-1-carboxamide;

N-(3, 5-dichloropyrid-4-yl)-4-methoxy dibenzo[b,d]furan-2-carboxamide;

N-(3, 5-dichloropyrid-4-yl)-4-methoxy dibenzo[b,d]furan-3-carboxamide;

N4-(4-methoxy dibenzo[b,d]furan-1-yl) isonicotinamide;

N-(3, 5-dichloropyrid-4-yl)-4-methoxy dibenzo[b,d]furan-1-sulfonamide;

N-(3,5-dichloropyrid-4-yl)-4-methoxy-8-amino-dibenzo[b,d]furan-1-carboxamide;

N-(3,5-dichloropyrid-4-yl)-4-difluoromethoxy-dibenzo[b,d]furan-1-carboxamide-N-oxide;

N-(3,5-dichloropyrid-4-yl)-4-methoxy-8-cyano-dibenzo[b,d]furan-1-carboxamide;

N-(3,5-dichloropyrid-4-yl)-4-difluoromethoxy-8-nitro-dibenzo[b,d]furan-1-carboxamide;

N-(3,5-dichloropyrid-4-yl)-4-difluoromethoxy-8-amino-dibenzo[b,d]furan-1-carboxamide;

3,5-Dichloro-4-(4-ethoxydibenzo[*b,d*]furan-1-ylcarboxamido)pyridine; and

*N*1-Benzyl-4-cyclopentyloxydibenzo[*b,d*]furan-1-carboxamide.

50. A compound according to claim 1 selected from the group consisting of:
4-(4-Cyclopentyloxydibenzo[*b,d*]furan-1-ylcarboxamido)pyridine;
3,5-Dichloro-4-(4-cyclopentyloxydibenzo[*b,d*]furan-1-ylcarboxamido)pyridine;
4-(4-Methylsulfanyldibenzo[*b,d*]furan-1-ylcarboxamido)pyridine;
*N*3-(4-Methoxydibenzo[*b,d*]furan-1-yl)nicotinamide;
*N*1-Benzyl-4-methoxydibenzo[*b,d*]furan-1-sulfonamide;
4-(4-Methoxydibenzo[*b,d*]furan-1-ylsulfonamido)pyridine;
3,5-Dichloro-4-(4-ethoxydibenzo[*b,d*]furan-1-ylcarboxamido)pyridine-*N*-oxide;
3,5-Dichloro-4-(4-cyclopentyloxydibenzo[*b,d*]furan-1-ylcarboxamido)pyridine-*N*-oxide;
N-Formyl-1-methoxy-4-[4-methoxyphenylaminosulphonyl]-9H-carbazole;
1-methoxy-4-[4-methoxyphenylaminosulphonyl]-9H-carbazole.;
N-Formyl-1-methoxy-4-[4-methylphenylaminosulphonyl]-9H-carbazole;
1-methoxy-4-[4-methylphenylaminosulphonyl]-9H-carbazole;
1-methoxy-4-[4-methylphenylaminosulphonyl-N'-methyl]-9H-carbazole;
1-methoxy-4-[4-methylphenylaminosulphonyl-N'-methyl]-9methyl carbazole;
1-methoxy-4-[4-pyridinylaminosulphonyl]-9H-carbazole;
N4-(2,6-Dichlorophenyl)-1-methoxy-9H-4-carbazolsulphonamide;
N4-(2,6-Dichlorophenyl)-9-formyl-1-methoxy-9*H*-4-carbazolsulphonamide;
N4-(4-pyridyl)-1-methoxy-9H-4-carbazole carboxamide;
N4-(3,5-dichloro-4-pridyl)-1-methoxy-9H-4-carbazole carboxamide; and
N4-(3, 5-dichloro-4-pyridyl) -6-chloro-1-methoxy-9H-4-carbazole carboxamide.

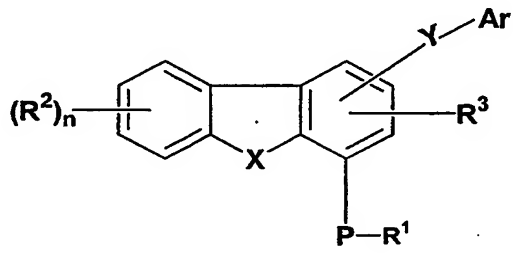
51. A compound according to claim 1 selected from the group consisting of:
N4-(3, 5-dichloro-4-pyridyl) -9-benzyl -6-chloro-1-methoxy-9H-4-carbazole carboxamide;
N4-(3, 5-dichloro-4-pyridyl) -6-chloro-9-cyclohexylmethyl -1-methoxy-9H-4-carbazole carboxamide;
N4-(3, 5-dichloro-4-pyridyl) -6-chloro-9-(4-fluorobenzyl)-1-methoxy-9H-4-carbazole carboxamide;
N4-(3, 5-dichloro-4-pyridyl) -6-chloro-9-(4-methoxybenzyl)-1-methoxy-9H-4-carbazolecarboxamide;
N4-(3, 5-dichloro-4-pyridyl)-9-(4-fluorobenzyl)-1-methoxy-9H- 4-carbazole carboxamide;

N4-(4-pyridyl)-9-(4-fluorobenzyl)-1-methoxy -9H-4-carbazole carboxamide;
N4-(3, 5-dichloro-4-pyridyl)-9-benzyl-1-methoxy-9H-4-carbazolecarboxamide;
N4-(3, 5-dichloro-4-pyridyl)-9-benzyl-1-ethoxy-9H-4-carbazolecarboxamide;
N4-(3, 5-dichloro-4-pyridyl)-9-benzyl-6-chloro-1-ethoxy-9H-4-carbazolecarboxamide;
N4-(4-pyridyl)-9-benzyl-1-ethoxy-9H-4-carbazolecarboxamide;
N4-(3-pyridyl)-6-chloro-9-(4-fluorobenzyl)-1-methoxy-9H-4-carbazolecarboxamide;
N4-(4-pyridyl)-6-chloro-9-(4-fluorobenzyl)-1-methoxy-9H-4-carbazolecarboxamide;
N4-(3, 5-dichloro-4-pyridyl) 8-chloro-9-cyclohexylmethyl-1-methoxy-9H-4-carbazole carboxamide;
N4-(3, 5-dichloro-4-pyridyl)- 8-chloro-9-(4-Fluorobenzyl)-1-methoxy-9H- 4-carbazole carboxamide;
N4-(3, 5-dichloro-4-pyridyl)-6-chloro-1-methoxy-9-methyl-9H-4-carbazole carboxamide;
N4-(3,5-dichloro-4-pyridyl-N-oxide)-6-chloro-9-(4-fluorobenzyl)-1-methoxy-9H-4-carbazolecarboxamide;
N4-(3,5-dichloro-4-pyridyl-N-oxide)-6-chloro-9-(4-methoxybenzyl)-1-methoxy-9H-4-carbazolecarboxamide;
N4-(3,5-dichloro-4-pyridyl-N-oxide)-6-chloro-9-cyclohexylmethyl-1-methoxy-9H-4-carbazolecarboxamide;
N4-(3, 5-dichloro-4-pyridyl)-9-methyl-1-methoxy-9H-4-carbazolecarboxamide; and
3,5-Dichloro-4-(4-methoxydibenzo[b,d]-thiophen-1- ylcarboxamido)pyridine.

52. A compound according to claim 1 selected from the group consisting of:
3,5-dichloro-4-(4-cyclopentyloxydibenzo[b,d]-thiophen-1-ylcarboxamido)pyridine;
N1 (4-methoxyphenyl)-4-methoxydibenzo[b,d]thiophene-1-carboxamide;
N1-(4-methoxyphenyl)-4-methoxydibenzo[b,d]thiophene-1-carboxamide-5,5-dioxide;
N1-(4-chlorophenyl)-4-methoxydibenzo[b,d]thiophene-1-carboxamide;
4-(4-methoxydibenzo[b, d]thiophene-1-ylcarboxamido)pyridine;
4-(4-cylopentyloxydibezo[b,d]thiophene-1-ylcarboxamido)pyridine;
3,5-dichloro-4-(4-cyclopentyloxydibenzo[b,d]-thiophen-5,5-dioxide-1-ylcarboxamido)pyridine-N-oxide;
3,5-dichloro-4-(4-methoxydibenzo[b,d]-thiophen-5,5-dioxide-1- ylcarboxamido) pyridine-N-oxide;

3,5 Dichloro-4-(4-methoxydibenzo[b,d]-thiophen-5,5-dioxide-1-ylcarboxamido) pyridine;
3,5 Dichloro-4-(4-difluoromethoxydibenzo[b,d]-thiophen-1-ylcarboxamido) pyridine;
N1-(4-methoxyphenyl)-4-methoxydibenzo[b,d]thiophene-1-sulfonamide;
2-(4-Methoxydibenzo[b,d] thiophen-1-ylcarboxamido)-pyridine;
4-(4-Ethoxydibenzo[b,d] thiophen-1-ylcarboxamido)-pyridine;
N1-(4-methoxyphenyl)-N8, 8-dimethyl-4-methoxydibenzo[b,d] thiophen-8,1-disulfonamide;
3-(4-Methoxydibenzo[b,d] thiophen-1-ylcarboxamido)-pyridine;
3,5-Dichloro-4-(6-ethyl-4-methoxydibenzo[b,d]-thiophen-1- ylcarboxamido)pyridine;
3,5,dichloro-4-(4-ethoxy-dibenzo[b, d]thiophen-1-yl-carboxamido)pyridine;
3-(4-Methoxydibenzo[b,d] thiophene-5,5-dioxide-1-ylcarboxamido)-pyridine;
3,5-Dichloro-4-(4-benzyloxydibenzo[b,d]-thiophen-1- ylcarboxamido)pyridine; and
N-(3,5-dichloropyrid-4-yl)-4-difluoromethoxy-8-(pyrrolidine-2-one-1-yl)-dibenzo[b,d]furan-1-carboxamide.

53. A method for the preparation of compounds of general formula (1)



(1)

R^1, R^2 and R^3 may be same or different and are independently selected from the groups consisting of hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylalkyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , –C(O)-R^1, -C(O)O-R^1, -C(O)NR^1R^1 , -$S(O)_m$-R^1, -$S(O)_m$-NR^1R^1 , nitro, -OH, cyano, amino, formyl, acetyl, halogen,-OR^1, -SR^1, protecting groups or when two R^2 substitutents ortho to each

other, may be joined to a form a saturated or unsaturated cyclic ring, which may optionally include up to two heteroatoms selected from O, NR^1 or S;

wherein P represents oxygen or sulfur;

wherein n represents 0 – 4;

Ar is substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heterocyclic ring or substituted or unsubstituted heteroaryl ring;

X is oxygen, $S(O)_m$ or NR^5;

R^5 represents hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , $-C(O)-R^1$, $-C(O)O-R^1$, $-C(O)NR^1R^1$, $-S(O)_m-R^1$, $-S(O)_m-NR^1R^1$, nitro, -OH, cyano, amino, formyl, acetyl, halogen,$-OR^2$, $-SR^2$ and protecting groups

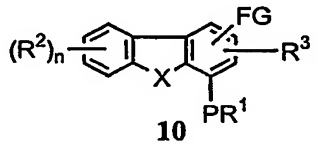
m is 0, 1 or 2;

Y is $-C(O)NR^4$;

R^4 is hydrogen, substituted or unsubstituted alkyl, hydroxyl, $-OR^1$, $-COOR^1$, substituted or unsubstituted aryl, substituted or unsubstituted heterocyclic ring ;

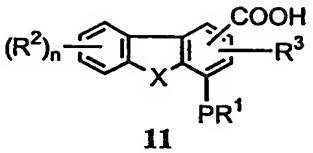
comprising the steps of:

(a) reacting the compound of general formula **(10)**



10

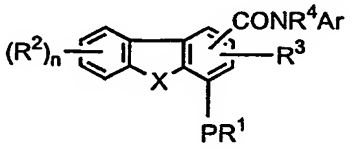
when FG is methyl then the methyl group is oxidized using manganese or chromium reagents to the carboxylic acid group; if FG is cyano group then the cyano group is hydrolysed to the carboxylic acid; if FG is bromine then it is transformed to carboxylic acid reaction with lithium followed by treatment with carbon dioxide) to get general formula **(11)**



11

(where R^1, R^2, R^3 and P have the meanings described above; FG represents substituted or unsubstituted alkyl, formyl, cyano, halogen, nitro, amino)

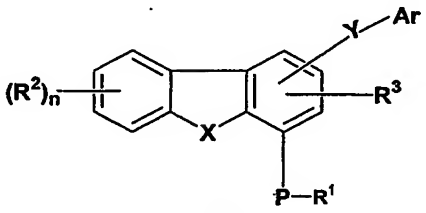
(b) reacting the compound of formula (11) with an amine of the formula $ArNHR^4$ to get a compound of formula (1)



(1)

(c) optionally converting the compound of formula (1) into its corresponding N-oxides by the action of a peracid.

54. A method for the preparation of compounds of general formula (1)



(1)

R^1, R^2 and R^3 may be same or different and are independently selected from the group consisting of hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , $-C(O)-R^1$, -

$C(O)O-R^1$, $-C(O)NR^1R^1$, $-S(O)_m-R^1$, $-S(O)_m-NR^1R^1$, nitro, -OH, cyano, amino, formyl, acetyl, halogen, $-OR^1$, $-SR^1$, protecting groups or when two R^2 substitutents ortho to each other, may be joined to a form a saturated or unsaturated cyclic ring, which may optionally include up to two heteroatoms selected from O, NR^1 or S;

wherein P represents oxygen or sulfur;

wherein n represents 0 – 4;

Ar is substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heterocyclic ring or substituted or unsubstituted heteroaryl ring;

X is oxygen, $S(O)_m$ or NR^5

R^5 represents hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , $-C(O)-R^1$, $-C(O)O-R^1$, $-C(O)NR^1R^1$, $-S(O)_m-R^1$, $-S(O)_m-NR^1R^1$, nitro, -OH, cyano, amino, formyl, acetyl, halogen,$-OR^2$, $-SR^2$ and protecting groups

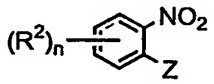
m is 0, 1 or 2;

Y is $-C(O)NR^4$;

R^4 is hydrogen, substituted or unsubstituted alkyl, hydroxyl, $-OR^1$, $-COOR^1$, substituted or unsubstituted aryl, substituted or unsubstituted heterocyclic ring ;

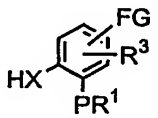
comprising the steps of

(a) reacting the compound of general formula (12) where Z is a halogen and R^2 have the meaning described above



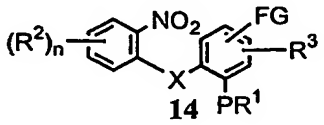
12

with a substituted or unsubstituted aromatic group of the formula (13)



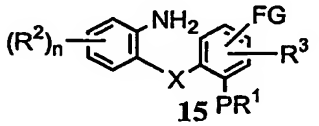
13

wherein FG is selected from the group consisting of alkyl, formyl, cyano, halogen, nitro, amino, and carboxylic acid group; under basic conditions to get the intermediate of formula (14)



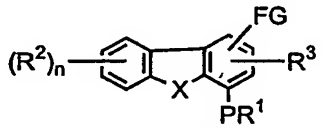
14

(b) reducing the compound of general formula (14) to obtain the compound of general formula (15)



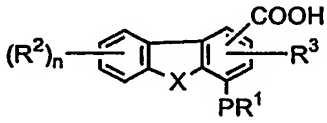
15

(c) cyclizing of the intermediate of general formula (15) can be cylized to tricyclic compounds of general formula (10) by using standard diazotization method using $NaNO_2$/HCl followed by coupling using cuprous oxide in 0.1N sulfuric acid or copper in DMSO.



10

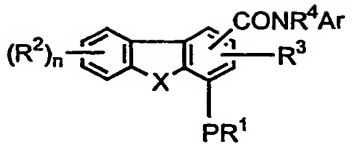
(d) converting the compound of general formula (10) to general formula (11) when FG is methyl then the methyl group is oxidized using manganese or chromium reagents if FG is cyano group then the cyano group is hydrolysed to the carboxylic acid; if FG is bromine then it is transformed to carboxylic acid via reaction with lithium metal followed by treatment with carbon dioxide. with the proviso that FG is not carboxylic acid



11

the symbols R1, R2, R3, P and P have the meanings described above.

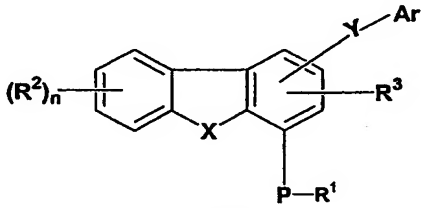
(e) reacting the compound of the formula (11) with an amine of the formula $ArNHR^4$ to yield the compound of formula 1



(1)

(f) optionally converting the compounds of formula (1) to the corresponding N-oxides by the action of a peracid.

55. A method for the preparation of compounds of general formula (1)



(1)

R^1, R^2 and R^3 may be same or different and are independently selected from the groups consisting of hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , $-C(O)-R^1$, $-C(O)O-R^1$, $-C(O)NR^1R^1$, $-S(O)_m-R^1$, $-S(O)_m-NR^1R^1$, nitro, -OH, cyano, amino, formyl, acetyl, halogen,$-OR^1$, $-SR^1$, protecting groups or when two R^2 substitutents ortho to each other, may be joined to a form a saturated or unsaturated cyclic ring, which may optionally include up to two heteroatoms selected from O, NR^1 or S;

wherein P represents oxygen or sulfur;

wherein n represents 0 – 4;

Ar is substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heterocyclic ring or substituted or unsubstituted heteroaryl ring;

X is oxygen, $S(O)_m$ or NR^5;

R^5 represents hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl,

substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , $-C(O)-R^1$, $-C(O)O-R^1$, $-C(O)NR^1R^1$, $-S(O)_m-R^1$, $-S(O)_m-NR^1R^1$, nitro, -OH, cyano, amino, formyl, acetyl, halogen,$-OR^2$, $-SR^2$ and protecting groups

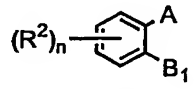
m is 0, 1 or 2;

Y is $-C(O)NR^4$;

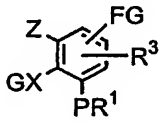
R^4 is hydrogen, substituted or unsubstituted alkyl, hydroxyl, $-OR^1$, $-COOR^1$, substituted or unsubstituted aryl, substituted or unsubstituted heterocyclic ring ;

comprising the steps of

(a) reacting the compound of general formulas (16) and (17)



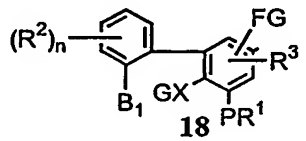
16



17

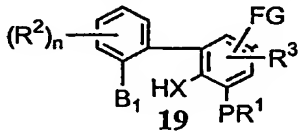
where A is halogen , -OMs or –OTs (Ms= methanesulfonyl group; Ts= p-toluenesulfonyl group) or $-B(OH)_2$; B_1 is halogen, G is a protecting group seleted from the group consisting of benzyloxy carbonyl, t-butyloxycarbonyl, isopropyl, cyclopentyl, allyl, acetyl and benzyl, FG is selected from the group consisting of alkyl, formyl, cyano, halogen, nitro, amino, and carboxylic acid group and Z is halogen and R^2 have the meaning described above

to yield the compounds of general formula (18)



18

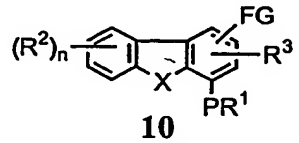
(b) Deprotecting intermediate (18) to intermediate of general formula (19)



19

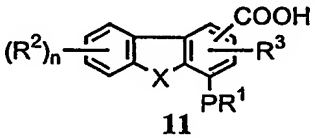
(c) cyclizing the intermediate of general formula (19)

to tricyclic compounds of general formula (10) in the presence of basic condtions



10

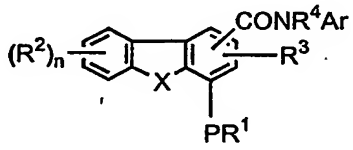
(d) converting of the compound of general formula (10) to general formula (11) where if FG is methyl the methyl group is oxidized using manganese or chromium reagents; if FG is cyano group then the cyano group is hydrolysed; if FG is bromine it is reacted with lithium metal followed by treatment with carbon dioxide), with the proviso that FG is not carboxylic acid



11

the symbols R^1, R^2, R^3, P and P have the meanings described above

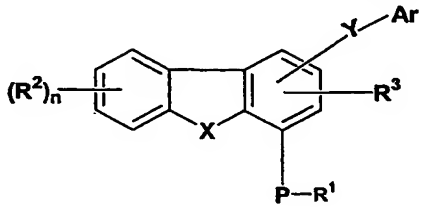
(e) reacting the novel compound of the formula (11) with an amine of the formula $ArNHR^4$ to yield the compounds of formula 1



(1)

(f) optionally converting the compounds of formula 1 are then converted into the corresponding N-oxides by the action of a peracid.

56. A method for the preparation of compounds of general formula (1)



(1)

R^1, R^2 and R^3 may be same or different and are independently selected from the groups consisting of hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , –C(O)-R^1, -C(O)O-R^1, -C(O)NR^1R^1 , -$S(O)_m$-R^1, -$S(O)_m$-NR^1R^1 , nitro, -OH, cyano, amino, formyl, acetyl, halogen,-OR^1, -SR^1, protecting groups or when two R^2 substitutents ortho to each other, may be joined to a form a saturated or unsaturated cyclic ring, which may optionally include up to two heteroatoms selected from O, NR^1 or S;

wherein P represents oxygen or sulfur;

wherein n represents 0 – 4;

Ar is substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heterocyclic ring or substituted or unsubstituted heteroaryl ring;

X is oxygen, $S(O)_m$ or NR^5;

R^5 represents hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , –C(O)-R^1, -C(O)O-R^1, -C(O)NR^1R^1 , -$S(O)_m$-R^1, -$S(O)_m$-NR^1R^1 , nitro, -OH, cyano, amino, formyl, acetyl, halogen,-OR^2, -SR^2 and protecting groups

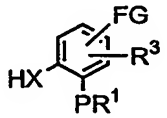
m is 0, 1 or 2;

Y is –C(O)NR^4;

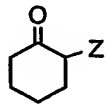
R^4 is hydrogen, substituted or unsubstituted alkyl, hydroxyl, -OR^1, -$COOR^1$, substituted or unsubstituted aryl, substituted or unsubstituted heterocyclic ring;

comprising the steps of

(a) reacting the compounds of general formulae (13) and (20) in the presence of basic conditions

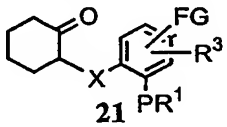


13



20

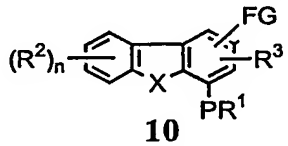
to yield the compounds of general formula (21)



21

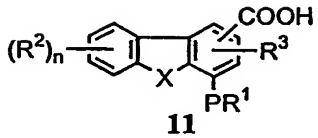
wherein FG is selected from the group consisting of alkyl, formyl, cyano, halogen, nitro, amino, and carboxylic acid group;

(b) cyclizing the intermediate of general formula (21) in the presence of acidic conditions followed oxidation give tricyclic compounds of general formula (10)



10

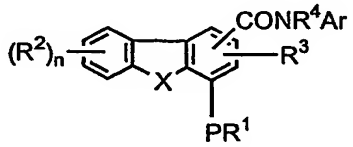
(c) converting the compound of general formula (10) is transformed to general formula (11) where if FG is methyl then the methyl group is oxidized using manganese or chromium reagents to the carboxylic acid group; if FG is cyano group then the cyano group is hydrolysed to the carboxylic acid; if FG is bromine then it could be transformed to carboxylic acid via reaction with lithium followed by treatment with carbon dioxide with the proviso that FG is not carboxylic acid



11

the symbols R^1, R^2, R^3, P and P have the meanings described above

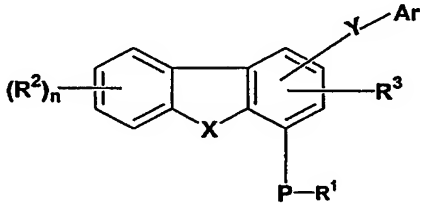
(d) reacting the novel compound of the formula (11) with an amine of the formula $ArNHR^4$ to yield the novel compounds of formula 1



(1) ; and

(e) optionally converting the desired compounds of formula 1 into the corresponding N-oxides by the action of a peracid.

57. A method for the preparation of compounds of general formula (1)



(1)

R^1, R^2 and R^3 may be same or different and are independently selected from the groups consisting of hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , $-C(O)-R^1$, $-C(O)O-R^1$, $-C(O)NR^1R^1$, $-S(O)_m-R^1$, $-S(O)_m-NR^1R^1$, nitro, -OH, cyano, amino, formyl, acetyl, halogen,$-OR^1$, $-SR^1$, protecting groups or when two R^2 substitutents ortho to each other, may be joined to a form a saturated or unsaturated cyclic ring, which may optionally include up to two heteroatoms selected from O, NR^1 or S;

wherein P represents oxygen or sulfur;

wherein n represents 0 – 4;

Ar is substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heterocyclic ring or substituted or unsubstituted heteroaryl ring;

X is oxygen, $S(O)_m$ or NR^5;

R^5 represents hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , $-C(O)-R^1$, $-C(O)O-R^1$, $-C(O)NR^1R^1$, $-S(O)_m-R^1$, $-S(O)_m-NR^1R^1$, nitro, -OH, cyano, amino, formyl, acetyl, halogen,$-OR^2$, $-SR^2$ and protecting groups

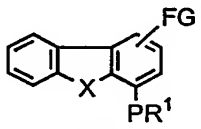
m is 0, 1 or 2;

Y is $-C(O)NR^4$;

R^4 is hydrogen, substituted or unsubstituted alkyl, hydroxyl, $-OR^1$, $-COOR^1$, substituted or unsubstituted aryl, substituted or unsubstituted heterocyclic ring ;

comprising the steps of

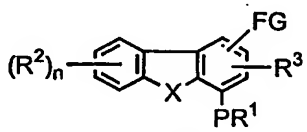
(a) reacting the compound of general formulas **(25)** with an electrophile



25

wherein FG is selected from the group consisting of alkyl, formyl, cyano, halogen, nitro, amino, and carboxylic acid group;

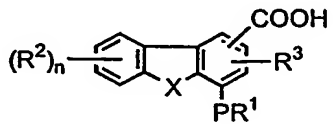
to get the compounds of general formula **(10)**



10

(b) Converting the compound of general formula **(10)** is converted into general formula (11) when if FG is methyl then the methyl group is oxidized using

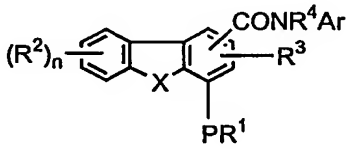
manganese or chromium reagents to the carboxylic acid group; if FG is cyano group then the cyano group is hydrolysed to the carboxylic acid; if FG is bromine then it is transformed to carboxylic acid via reaction with lithium metal followed by treatment with carbon dioxide



11

the symbols R^1, R^2, R3 and P have the meanings described above

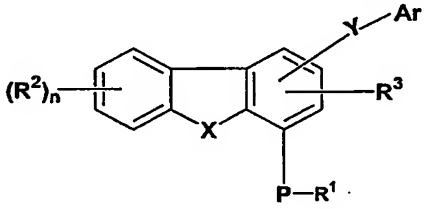
(c) reacting the novel compound of the formula (11) with an amine of the formula $ArNHR^4$ to yield the compounds of formula 1



(1)

(d) optionally converting the desired compounds of formula (1) are then converted into the corresponding N-oxides by the action of a peracid.

58. A method for the preparation of compounds of general formula (1)



(1)

R^1, R^2 and R^3 may be same or different and are independently selected from the groups consisting of hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , $-C(O)-R^1$, -

C(O)O-R^1, -C(O)NR^1R^1 , -S(O)$_m$-R^1, -S(O)$_m$-NR^1R^1 , nitro, -OH, cyano, amino, formyl, acetyl, halogen,-OR^1, -SR^1, protecting groups or when two R^2 substitutents ortho to each other, may be joined to a form a saturated or unsaturated cyclic ring, which may optionally include up to two heteroatoms selected from O, NR^1 or S;

wherein P represents oxygen or sulfur;

wherein n represents 0 – 4;

Ar is substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heterocyclic ring or substituted or unsubstituted heteroaryl ring;

Preferably Ar is optionally substituted phenyl, optionally substituted benzyl, optionally substituted pyramidine, optionally substituted pyridyl selected from 4-pyridyl, 3-pyridyl and 2-pyridyl or optionally substituted pyridyl-N-oxide selected from 4-pyridyl-N-Oxide, 3-pyridyl-N-Oxide and 2-pyridyl-N-Oxide in which optional substituents (one or more) may be same or different and are independently selected from the groups consisting of hydrogen, hydroxyl, halogen, cyano, nitro, carboxyl, trifluoroalkyl, substituted or unsubstituted alkyl, substituted or unsubstituted alkoxy, substituted or unsubstituted alkoxycarbonyl, substituted or unsubstituted alkylcarbonyl, substituted or unsubstituted alkylcarbonyloxy, substituted or unsubstituted amino or mono or di substituted or unsubstituted alkylamino

X is oxygen, S(O)$_m$ or NR^5;

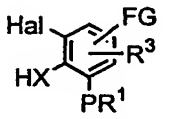
R^5 represents hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , –C(O)-R^1, -C(O)O-R^1, -C(O)NR^1R^1 , -S(O)$_m$-R^1, -S(O)$_m$-NR^1R^1 , nitro, -OH, cyano, amino, formyl, acetyl, halogen,-OR^2, -SR^2 and protecting groups

m is 0, 1 or 2;

Y is –C(O)NR^4;

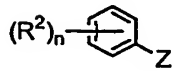
R^4 is hydrogen, substituted or unsubstituted alkyl, hydroxyl, -OR^1, -COOR^1, substituted or unsubstituted aryl, substituted or unsubstituted heterocyclic ring ; comprising the steps of

(a) reacting the compounds of general formulae **(13.a)** and **(23)** in the presence of basic conditions



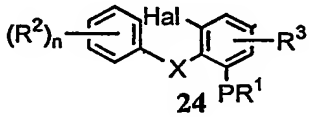
13.a

+



23

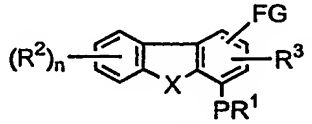
wherein P, X, R^1, $R^2$and R^3 have the meanings described above and wherein Z is a halogen, FG is alkyl, formyl, cyano, halogen, nitro, amino, and carboxylic acid group; Hal is halogen to yield the compounds of general formula **(24)**



24

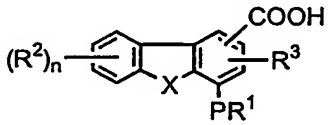
where all the symbols defined above;

(b) cyclizing the intermediate of general formula **(24)** to tricyclic compounds of general formula **(10)** in the presence of palladium catalyzed coupling conditions



10

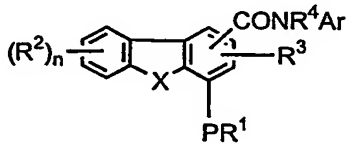
(c) converting the compound of general formula **(10)** can be transformed to general formula (11) where if FG is methyl then the methyl group is oxidized using manganese or chromium reagents to the carboxylic acid group; if FG is cyano group then the cyano group is hydrolysed to the carboxylic acid; if FG is bromine then it is transformed to carboxylic acid via reaction with lithium followed by treatment with carbon dioxide with the proviso that FG is not carboxylic acid



11

the symbols R^1, R^2, R^3, P and P have the meanings described above

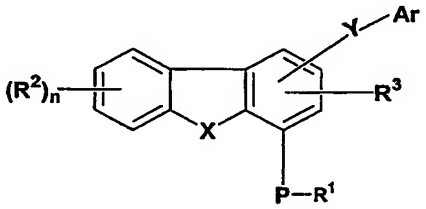
(d) reacting the compound of the formula (11) with an appropriate amine of the formula $ArNHR^4$ to get the novel compounds of formula 1



(1)

(e) optionally the compounds of formula 1 are then converted into the corresponding N-oxides by the action of a peracid.

59. A method for the preparation of compounds of general formula (1)



(1)

Y is $-C(O)NR^4$

R^1, R^2 and R^3 may be same or different and are independently selected from the groups consisting of hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , $-C(O)-R^1$, $-C(O)O-R^1$, $-C(O)NR^1R^1$, $-S(O)_m-R^1$, $-S(O)_m-NR^1R^1$, nitro, -OH, cyano, amino, formyl, acetyl, halogen,$-OR^1$, $-SR^1$, protecting groups or when two R^2 substitutents ortho to each other, may be joined to a form a saturated or unsaturated cyclic ring, which may optionally include up to two heteroatoms selected from O, NR^1 or S;

wherein P represents oxygen or sulfur;

wherein n represents 0 – 4;

Ar is substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heterocyclic ring or substituted or unsubstituted heteroaryl ring;

X is oxygen, $S(O)_m$ or NR^5;

R^5 represents hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , –C(O)-R^1, -C(O)O-R^1, -C(O)NR^1R^1 , -$S(O)_m$-R^1, -$S(O)_m$-NR^1R^1 , nitro, -OH, cyano, amino, formyl, acetyl, halogen,-OR^2, -SR^2 and protecting groups

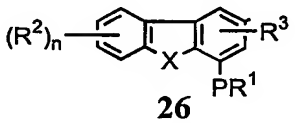
m is 0, 1 or 2;

Y is –C(O)NR^4;

R^4 is hydrogen, substituted or unsubstituted alkyl, hydroxyl, -OR^1, -$COOR^1$, substituted or unsubstituted aryl, substituted or unsubstituted heterocyclic ring ;

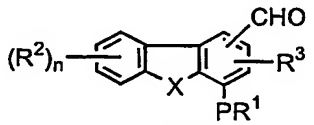
comprising the steps of

(a) Formylation of the compound of general formula **(26)**



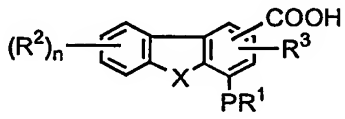
26

by formylation oxidation of the aldehyde group of the formula **(27)**



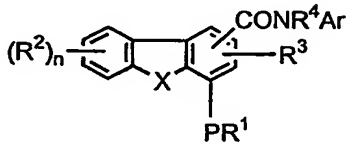
27

to give carboxylic acid group of general formula **(11)**



11

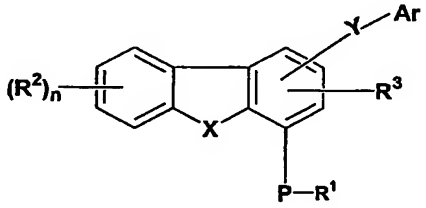
(b) reacting the novel compound of the formula (11) with an amine of the formula $ArNHR^4$ to get the compounds of formula (1)



(1)

(c) optionally converting the compounds of formula 1 into the corresponding N-oxides by the action of a peracid.

60. A process for the preparation of compounds of general formula (1)



(1)

R^1, R^2 and R^3 may be same or different and are independently selected from the groups consisting of hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , $-C(O)-R^1$, $-C(O)O-R^1$, $-C(O)NR^1R^1$, $-S(O)_m-R^1$, $-S(O)_m-NR^1R^1$, nitro, -OH, cyano, amino, formyl, acetyl, halogen,$-OR^1$, $-SR^1$, protecting groups or when two R^2 substitutents ortho to each other, may be joined to a form a saturated or unsaturated cyclic ring, which may optionally include up to two heteroatoms selected from O, NR^1 or S;

wherein P represents oxygen or sulfur;

wherein n represents 0 – 4;

Ar is substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heterocyclic ring or substituted or unsubstituted heteroaryl ring;

X is oxygen, $S(O)_m$ or NR^5;

R^5 represents hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , $-C(O)-R^1$, $-C(O)O-R^1$, $-C(O)NR^1R^1$, $-S(O)_m-R^1$, $-S(O)_m-NR^1R^1$, nitro, -OH, cyano, amino, formyl, acetyl, halogen,$-OR^2$, $-SR^2$ and protecting groups

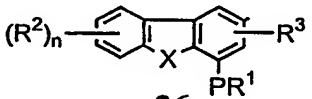
m is 0, 1 or 2;

Y is $-SO_2NR^4$;

R^4 is hydrogen, substituted or unsubstituted alkyl, hydroxyl, $-OR^1$, $-COOR^1$, substituted or unsubstituted aryl, substituted or unsubstituted heterocyclic ring ;

comprising the steps of

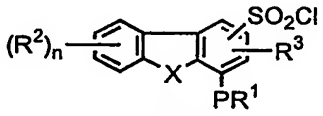
(a) chlorosulfonylation of the compound of general formula (26)



26

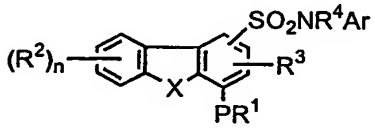
where the symbols are defined in the above

with chlorosulfonic acid to get general formula (28)



28

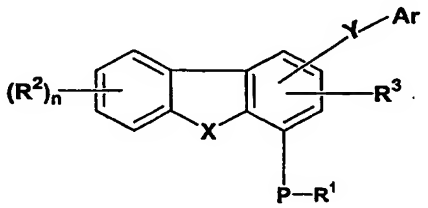
(b) reacting the compound of general formula (28) with an amine of the formula $ArNHR^4$ to get the novel compounds of formula 1



(1)

(c) optionally the compounds of formula 1 are converted into the corresponding N-oxides by the action of a peracid.

61. A method for the preparation of compounds of general formula (1)



(1)

wherein:

R^1, R^2 and R^3 may be same or different and are independently selected from the groups consisting of hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , –C(O)-R^1, -C(O)O-R^1, -C(O)NR^1R^1 , -$S(O)_m$-R^1, -$S(O)_m$-NR^1R^1 , nitro, -OH, cyano, amino, formyl, acetyl, halogen,-OR^1, -SR^1, protecting groups or when two R^2 substitutents ortho to each other, may be joined to a form a saturated or unsaturated cyclic ring, which may optionally include up to two heteroatoms selected from O, NR^1 or S;

wherein P represents oxygen or sulfur;

wherein n represents 0 – 4;

Ar is substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heterocyclic ring or substituted or unsubstituted heteroaryl ring;

X is oxygen, $S(O)_m$ or NR^5;

R^5 represents hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , –C(O)-R^1, -

C(O)O-R^1, -C(O)NR^1R^1 , -$S(O)_m$-R^1, -$S(O)_m$-NR^1R^1 , nitro, -OH, cyano, amino, formyl, acetyl, halogen,-OR^2, -SR^2 and protecting groups

m is 0, 1 or 2;

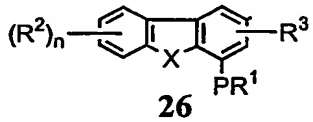
Y is –C(O)NR^4, –NR^4SO_2, –SO_2NR^4 or –$NR^4C(O)$;

R^4 is hydrogen, substituted or unsubstituted alkyl, hydroxyl, -OR^1, -$COOR^1$, substituted or unsubstituted aryl, substituted or unsubstituted heterocyclic ring ;

and their analogs, their tautomers, their regioisomers, their stereoisomers, their enantiomers, their diastereomers, their polymorphs, their pharmaceutically acceptable salts, their N-oxides, their pharmaceutically acceptable solvates and their pharmaceutical compositions containing them or a pharmaceutical acceptable salts thereof;

which comprises the steps of:

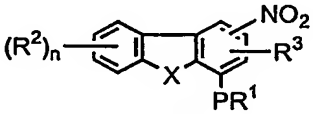
(a) nitrating the compound of general formula **(26)**



26

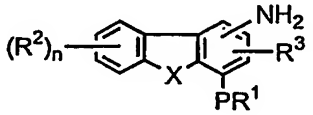
where the symbols are defined in the above

to yield the nitro compounds of general formula **(29)**



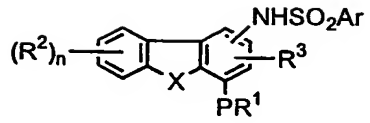
29

(b) reacting the compound of general formula **(29)** with a reducing agent to yield the amino compounds of general formula **(30)**



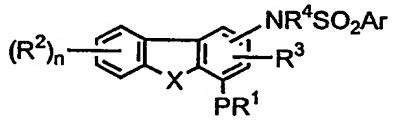
30

(c) reacting the amino compounds of general formula (30) with $ArSO_2Cl$ to yield the compounds of general formula **(31)**



31

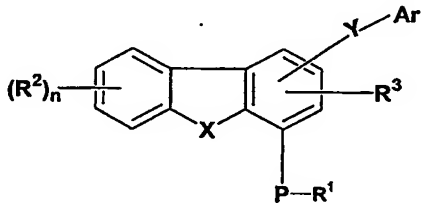
(d) alkylating the compounds of general formula (31) with an alkylating agent in the presence of a base to yield the compounds of general formula (1); and



(1)

(e) optionally converting the compounds of formula (1) into the corresponding N-oxides by the action of a peracid.

62. A process for the preparation of compounds of general formula (1)



(1)

wherein:

R^1, R^2 and R^3 may be same or different and are independently selected from the groups consisting of hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , –C(O)-R^1, -C(O)O-R^1, -C(O)NR^1R^1 , -$S(O)_m$-R^1, -$S(O)_m$-NR^1R^1 , nitro, -OH, cyano, amino, formyl, acetyl, halogen,-OR^1, -SR^1, protecting groups or when two R^2 substitutents ortho to each other, may be joined to a form a saturated or unsaturated cyclic ring, which may optionally include up to two heteroatoms selected from O, NR^1 or S;

wherein P represents oxygen or sulfur;

wherein n represents 0 – 4;

Ar is substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heterocyclic ring or substituted or unsubstituted heteroaryl ring;

X is oxygen, $S(O)_m$ or NR^5;

R^5 represents hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted alkenyl, substituted or unsubstitued alkynyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted cycloalkylakyl, substituted or unsubstituted cycloalkenyl, substituted or unsubstituted aryl, substituted or unsubstituted arylalkyl, substituted or unsubstituted heteroaryl, substituted or unsubstituted heterocyclic group, substituted or unsubstituted heterocyclylalkyl, substituted or unsubstituted heteroarylalkyl , $-C(O)-R^1$, $-C(O)O-R^1$, $-C(O)NR^1R^1$, $-S(O)_m-R^1$, $-S(O)_m-NR^1R^1$, nitro, -OH, cyano, amino, formyl, acetyl, halogen,$-OR^2$, $-SR^2$ and protecting groups

m is 0, 1 or 2;

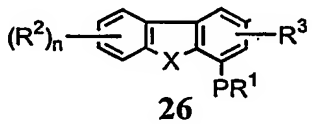
Y is $-NR^4C(O)$;

R^4 is hydrogen, substituted or unsubstituted alkyl, hydroxyl, $-OR^1$, $-COOR^1$, substituted or unsubstituted aryl, substituted or unsubstituted heterocyclic ring ;

and their analogs, their tautomers, their regioisomers, their stereoisomers, their enantiomers, their diastereomers, their polymorphs, their pharmaceutically acceptable salts, their N-oxides, their pharmaceutically acceptable solvates and their pharmaceutical compositions containing them or a pharmaceutical acceptable salts thereof;

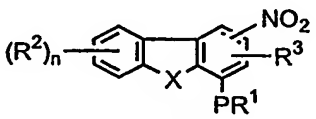
which comprises the steps of;

(a) nitrating the compound of general formula (26)



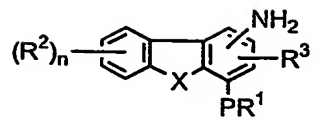
26

to yield the nitro compounds of general formula (29)



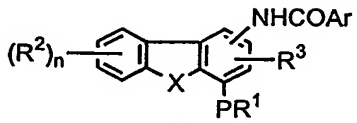
29

(b) reacting the compound of general formula (29) with a reducing agent to yield the amino compounds of general formula (30)



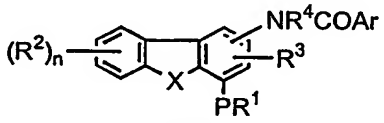
30

(c) reacting the amino compounds of general formula (30) with ArCOCl or a mixed anhydride of the formula $ArCOOCOR^5$ where R^5 substituted or unsubstituted alkyl, cycloalkyl, aryl, heterocyclic ring, heteroaryl, to yield the compounds of general formula (32)



32

(d) alkylating the compounds of general formula (32) with an alkylating agent to yield the compounds of general formula (1)



(1)

(e) optionally converting the compounds of formula (1) into the corresponding N-oxides by the action of a peracid

63. A pharmaceutical composition comprising a compound according to claims 1-51 or 52 and pharmaceutically acceptable salts or solvates thereof as well as pharmaceutically acceptable diluents or carriers.

64. A method of treating inflammatory diseases, disorders and conditions characterized by or associated with an undesirable inflammatory immune response and all disease and conditions induced by or associated with an excessive secretion of TNF-α and PDE-4 which comprises administering to a subject a therapeutically effective amount of a compound according to claims 1-51 or 52.

65. A method of treating inflammatory conditions and immune disorders in a subject in need thereof which comprises administering to said subject a therapeutically effective amount of a compound according to claims 1-51 or 52.

66. The method according to claim 65 wherein said inflammatory conditions and immune disorders is chosen from the group consisting of asthma, bronchial asthma chronic obstructive pulmonary disease, allergic rhinitis, eosinophilic granuloma, nephritis, rheumatoid arthritis, cystic fibrosis, chronic bronchitis, multiple sclerosis, Crohns disease, psoraisis, uticaria, adult vernal cojunctivitis, respiratory distress syndrome, rhematoid spondylitis, osteoarthritis, gouty arthritis, uteltis, allergic conjunctivitis, inflammatory bowel conditions, ulcerative coalitis, eczema, atopic dermatitis and chronic inflammation.

67. The method according to claim 66 wherein said inflammatory condition is an allergic inflammatory condition.

68. The method according to claim 67 wherein said inflammatory conditions and immune disorders are selected from the group consisting of inflammatory conditions or immune disorders of the lungs, joints, eyes, bowels, skin and heart.

69. The method according to claim 68 whrein said inflammatory condition is chosen from the group consisting of bronchial asthma, nepritis, and allergic rhinitis.

70. A method for abating inflammation in an affected organ or tissue comprising delivering to said organ or tissue a therapeutically effective amount of a compound represented by a compound according to claims 1-51 or 52.

71. A method of treating diseases of the central nervous system in a subject in need thereof which comprises administering to said subject a therapeutically effective amount of a compound according to claims 1-51 or 52.

72. The method according to claim 71 wherein said diseases of the central nervous system are chosen from the group consisting of depression, amnesia, dementia, Alzheimers disease, cardiac failure, shock and cerebrovascular disease.

73. A method of treating insulin resistant diabetes in a subject in need thereof which comprises administering to said subject a therapeutically effective amount of a compound according to claims 1-51 or 52.